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Park Vaughan & Fleming LLP
508 Second St
Suite 201
Davis, CA 95616

EXAMINER
TRUONG, CAM Y T

ART UNIT	PAPER NUMBER
2162	

DATE MAILED: 01/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/922,617	JACOBS ET AL.
	Examiner	Art Unit	
	Cam Y T Truong	2162	

-- The MAILING DATE of this communication appears on the cover she t with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 July 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-25</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-25</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 1-04)   Office Action Summary   Part of Paper No./Mail Date 20041222

DETAILED ACTION

1.   Applicant has amended claims 1, 6, 13, 18-20 in the amendment filed on

7/23/2004. Claims 1-25 are pending in this Office Action.

Applicant's arguments with respect to claims 1-25 has been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as
> set forth in section 102 of this title, if the differences between the subject matter sought to be
> patented and the prior art are such that the subject matter as a whole would have been obvious
> at the time the invention was made to a person having ordinary skill in the art to which said
> subject matter pertains. Patentability shall not be negatived by the manner in which the invention
> was made.

3.   Claims 1-4, 6, 7, 13, 17, 18, 19, 20, 21, 22, 23 and 24 are rejected under 35 U.S.C.

103(a) as being unpatentable over Chamberlain et al (or hereinafter "Chamberlain") (US

6408360) in view of Krishnamurthy et al (or hereinafter "Krishnamurthy") (US 6578113).

As to claim 1, Chamberlain teaches the claimed limitations:

"at the cache system physically separate from a data server configured to

originate data to be cached in the system cache" as (col. 1, lines 60-67; col. 2, lines 1-

5);

"caching a first data item received from the data server for service in response to

requests to view said first data item" as web pages, which are stored in web server, are

accessed over the Internet and downloaded into the volatile cache of a local computer.

The volatile cache enables a user to quickly review web pages. The above information

shows that the local computer caches web pages after the local computer sends

requests and then receives web pages from the web server. A web page is represented

as a first data item (col. 1, lines 50-67; col. 2, lines 1-5);

"receiving at the cache system a change request to alter a data item" as domino

web server 100, receives a URL from a client. With a Domino server, within the URL

that is received from the requesting user is a Domino/Notes-specific command e.g.,

?Edit Document. The above information shows that the request is an edit request to

edit a document. Thus, a URL request from a client is represented as a change request

to edit a document. Since the server 100 contains a cache 340, cache control unit 311,

thus, the server 100 can be called a cache server. The cache server 100 is represented

as the cache system. A change request is represented as a URL request. A URL is

represented as a data item (fig. 4, col. 6, line 26, col. 7, lines 23-55).

Chamberlain does not explicitly teach "automatically invalidating data cached in

a cache system physically separate from a data server configured to originate data to

be cached in the cache system; automatically invalidating said first data item at the

cache system in response to said change request".

Krishnamurthy teaches that when the subscriber sends a request for accessing

or downloading a particular page in the network, say a page residing at source s.sub.2,

the LSP first checks in the proxy cache to determine whether the requested resource is

available from the cache without having to transfer the request through the network to

the server which is typically more remote. If the resource is available at the cache, the

local service provider can transmit the resource back to the requester without the need

of forwarding a request through the network to the server s.sub.2. The above

information shows that the cache system is physically separate from the server s.sub.2

and automatically validating the requested resource without having to transfer the

request through the network (col. 1, lines 44-55).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Krishnamurthy's teaching of when the subscriber

sends a request for accessing or downloading a particular page in the network, say a

page residing at source s.sub.2, the LSP first checks in the proxy cache to determine

whether the requested resource is available from the cache without having to transfer

the request through the network to the server which is typically more remote. If the

resource is available at the cache, the local service provider can transmit the resource

back to the requester without the need of forwarding a request through the network to

the server s.sub.2. to Chamberlain's system in order to avoid unnecessary time delay

in processing the subscriber's request and further to save time for validating data and

eliminate another interactions from any devices.

As to claim 2, Chamberlain teaches the claimed limitation "comparing said

change request to a set of rules for determining when to automatically invalidate a data

item" as if the cache control unit determines that there is an exact match between the

parsed URL of the user request and the URLs corresponding to one of the cached

responses in the cache 304, the candidate cached response along with its associated

cache strategy indicators is passed to the cached response analyzer 306. The

response analyzer 306 performs two series of tests. The first series of tests are response-specific and the second series of tests are request-specific. The response-specific tests are performed by the validity analyzer portion 315 while the request-specific tests are performed by the applicability analyzer portion 317. These tests will be discussed in greater detail below. If the candidate cached response and its associated attributes pass the two tests, the candidate cached response is simply served up to the user via the HTTP server 206. This information shows that the system has included rules to test URLs for validating URLs (col. 8, lines 25-40).

As to claim 3, Chamberlain teaches the claimed limitation "said first data item" as the candidate cached response (col. 8, line 29).

As to claim 4, Chamberlain teaches the claimed limitation "identifying a relationship between said data item to be altered and said first data item" as a cached response is identified as stale when its URL is requested by a users and the cache control unit compares the candidate cached response's last modified date against all of the source parts' last modified dates. This information shows that the system identifies relationship between a cached response with requested URL (col. 12, lines 40-45).

As to claim 6, Chamberlain teaches a method of operating a cache system to

facilitate automatic invalidation of cached data, the method being performed at the

cache system (col. 7, lines 23-26; col. 12, lines 57-67; col. 13, lines 1-5):

"a cache system physically separate from a data server configured to originate

data to be cached in the cache system" as (col. 1, lines 60-67; col. 2, lines 1-5);

"caching a first set of data received from a data server" as caching a web page

responses to user requests by the web server (col. 2, lines 10-30; col. 1, lines 40-55);

"receiving at the cache system a first request to change a second set of data" as

domino web server 100, receives a URL from a client. With a Domino server, within the

URL that is received from the requesting user is a Domino/Notes-specific command

e.g., ?Edit Document. The above information shows that the request is an edit request

to edit a document. Thus, a URL request from a client is represented as a change

request to edit a document. Since the server 100 contains a cache 340, cache control

unit 311, thus, the server 100 can be called a cache server. The cache server 100 is

represented as the cache system. A change request is represented as a URL request.

A URL is represented as a second set of data (fig. 4, col. 6, line 26, col. 7, lines 23-55).

"retrieving from said first request an identifier of said second set of data" as the

received URL is parsed, examined for and compared against the cached response

URLs. This information shows that the system has to retrieve URLs of the cached

response to compare with received URL. Each URL of the cached response is

represented as an identifier (col. 12, lines 62-65).

Chamberlain does not explicitly teach the claimed limitation "automatically invalidating said first set of data in the cache system without awaiting an invalidation communication from the data server". Krishnamurthy teaches a proxy cache receives a request for a data resource, step 401. The proxy cache then determines whether the requested data source resides in the proxy cache, step 402. If the requested data source does reside in the proxy cache, the proxy cache then determines the freshness of the requested data resource i.e., whether the data resource is valid or current, step 403. If the requested data source is valid, the copy of the requested data resource is sent to the user. The above information shows that the proxy cache is automatically validating the requested data resource without awaiting an invalidation communication from data server (fig. 4, col. 4, lines 25-33).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Krishnamurthy's teaching of a proxy cache determines whether received a request for a data resource that resides in the proxy cache is valid or invalid to Chamberlain's system in order to avoid unnecessary time delay in processing the subscriber's request and further to reduce network traffic.

As to claim 7, Chamberlain teaches the claimed limitation "said first set of data" as caching web page responses to user requests by the web server (col. 2, lines 28-29).

As to claim 13, Chamberlain teaches a method of automatically invalidating cached data (col. 7, lines 23-26; col. 12, lines 57-67; col. 13, lines 1-5), comprising:

"caching a first set of data at a caching system for serving in response to a

view request" as web pages, which are stored in web server, are accessed over the

Internet and downloaded into the volatile cache of a local computer. The volatile cache

enables a user to quickly review web pages. The above information shows that the

local computer caches web pages after the local computer sends requests and then

receives web pages from the web server. A web page is represented as a first data

item (col. 1, lines 50- 67; col. 2, lines 1-5), "and wherein said first set of data is received

from a data server" as web pages, which are stored in web server, are accessed over

the Internet and downloaded into the volatile cache of a local computer. This

information shows the web page is received from the web server. The web page is

represented as the first data set (col. 1, lines 50-67; col. 2, lines 1-5);

"receiving at the caching system a change request, wherein said change

request comprises a request to change said first set of data" as domino web

server 100, receives a URL from a client. With a Domino server, within the URL that is

received from the requesting user is a Domino/Notes-specific command e.g., ?Edit

Document. The above information shows that the request is an edit request to edit a

document. Thus, a URL request from a client is represented as a change request to

edit a document. Since the server 100 contains a cache 340, cache control unit 311,

thus, the server 100 can be called a cache server. The cache server 100 is represented

as the cache system. A change request is represented as a URL request. A URL is

represented as a first set of data (fig. 4, col. 6, line 26, col. 7, lines 23-55);

"identifying said first set of data from said change request" as the received URL

is parsed, examined for and compared against the cached response URLs. This

information shows that the system has to identify URLs of the cached response to

compare with received URL (col. 12, lines 62-65);

Chamberlain does not explicitly teach the claimed limitation "and automatically

invalidating said cached first set of data without waiting for the data server to implement

said change request, wherein invalidating said cached first set of data is in response to

the view request ". Krishnamurthy teaches a proxy cache receives a request for a data

resource, step 401. The proxy cache then determines whether the requested data

source resides in the proxy cache, step 402. If the requested data source does reside

in the proxy cache, the proxy cache then determines the freshness of the requested

data resource i.e., whether the data resource is valid or current, step 403. If the

requested data source is valid, the copy of the requested data resource is sent to the

user. The above information shows that the proxy cache is automatically validating the

requested data resource without awaiting an invalidation communication from data

server (fig. 4, col. 4, lines 25-33).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Krishnamurthy's teaching of a proxy cache determines

whether received a request for a data resource that resides in the proxy cache is valid

or invalid to Chamberlain's system in order to a void unnecessary time delay in

processing the subscriber's request and further to reduce network traffic.

As to claim 17, Chamberlain teaches the claimed limitation " a predetermined

sequence of communications matching a predetermined pattern" as after receiving a

requested URL at server, the requested URL is passed to the cache control unit. A

request is made to the response builder to build a new response based upon the

requested URL. This information shows that request includes a predetermined

sequence of communications. The built a new response is presented as a pattern (col.

12, lines 57-60; col. 13, lines 14, lines 15-20).

As to claim 18, Chamberlain teaches a computer readable storage medium

storing instruction that, when executed by a computing device, cause the computing

device to perform a method of operating a cache system to facilitate automatic

invalidation of cached data, the method being performed at the cache system (col. 7,

lines 23-26; col. 12, lines 57-67; col. 13, lines 1-5) and comprising:

"at a cache system physically separate from a data server configured to originate

data to be cached in the cache system" as (col. 1, lines 60-67; col. 2, lines 1-5);

"caching a first set of data received from the data server" as (col. 1, lines 50-67;

col. 2, lines 1-5);

"receiving at the cache system a first request to change a second set of data"

as domino web server 100, receives a URL from a client. With a Domino server, within

the URL that is received from the requesting user is a Domino/Notes-specific command

e.g., ?Edit Document. The above information shows that the request is an edit request

to edit a document. Thus, a URL request from a client is represented as a change

request to edit a document. Since the server 100 contains a cache 340, cache control

unit 311, thus, the server 100 can be called a cache server. The cache server 100 is

represented as the cache system. A change request is represented as a URL request.

A URL is represented as a second set of data (fig. 4, col. 6, line 26, col. 7, lines 23-55).

"retrieving from said first request an identifier of said second set of data" as the

received URL is parsed, examined for and compared against the cached response

URLs. This information shows that the system has to retrieve URLs of the cached

response to compare with received URL. Each URL of the cached response is

represented as an identifier (col. 12, lines 62-65).

Chamberlain does not explicitly teach the claimed limitation "automatically

invalidating said first set of data in the cache system without awaiting an invalidation

communication from the data server". Krishnamurthy teaches downloading resources

from a server to a proxy cache. A proxy cache receives a request for a data resource,

step 401. The proxy cache then determines whether the requested data source resides

in the proxy cache, step 402. If the requested data source does reside in the proxy

cache, the proxy cache then determines the freshness of the requested data resource

i.e., whether the data resource is valid or current, step 403. If the requested data

source is valid, the copy of the requested data resource is sent to the user. The above

information shows that the proxy cache is automatically validating the requested data

resource without awaiting an invalidation communication from data server (fig. 4, col. 3,

lines 31-34; col. 4, lines 25-33).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Krishnamurthy's teaching of downloading resources from the server to a proxy cache and the proxy cache determines whether received a request for a data resource that resides in the proxy cache is valid or invalid to Chamberlain's system in order to avoid unnecessary time delay in processing the subscriber's request and further to reduce network traffic.

As to claim 19, Chamberlain teaches a computer readable storage medium storing instructions that, when executed by a computing device, cause the computing device to perform a method of automatically invalidating cached data (col. 7, lines 23-26; col. 12, lines 57-67; col. 13, lines 1-5), the method comprising:

"caching a first set of data at a caching system for serving in response to a view request" as web pages, which are stored in web server, are accessed over the Internet and downloaded into the volatile cache of a local computer. The volatile cache enables a user to quickly review web pages. The above information shows that the local computer caches web pages after the local computer sends requests and then receives web pages from the web server. A web page is represented as a first data item (col. 1, lines 50- 67; col. 2, lines 1-5), "and wherein said first set of data is received from a data server" as web pages, which are stored in web server, are accessed over the Internet and downloaded into the volatile cache of a local computer. This information shows the web page is received from the web server. The web page is represented as the first data set (col. 1, lines 50-67; col. 2, lines 1-5);

"receiving at the caching system a change request, wherein said change

request comprises a request to change said first set of data" as domino web

server 100, receives a URL from a client. With a Domino server, within the URL that is

received from the requesting user is a Domino/Notes-specific command e.g., ?Edit

Document. The above information shows that the request is an edit request to edit a

document. Thus, a URL request from a client is represented as a change request to

edit a document. Since the server 100 contains a cache 340, cache control unit 311,

thus, the server 100 can be called a cache server. The cache server 100 is represented

as the cache system. A change request is represented as a URL request. A URL is

represented as a first set of data (fig. 4, col. 6, line 26, col. 7, lines 23-55);

"identifying said first set of data from said change request" as the received URL

is parsed, examined for and compared against the cached response URLs. This

information shows that the system has to identify URLs of the cached response to

compare with received URL (col. 12, lines 62-65);

Chamberlain does not explicitly teach the claimed limitation "and automatically

invalidating said cached first set of data without waiting for the data server to implement

said change request, wherein invalidating said cached first set of data is in response to

the view request". Krishnamurthy teaches a proxy cache receives a request for a data

resource, step 401. The proxy cache then determines whether the requested data

source resides in the proxy cache, step 402. If the requested data source does reside

in the proxy cache, the proxy cache then determines the freshness of the requested

data resource i.e., whether the data resource is valid or current, step 403. If the

requested data source is valid, the copy of the requested data resource is sent to the user. The above information shows that the proxy cache is automatically validating the requested data resource without awaiting an invalidation communication from data server (fig. 4, col. 4, lines 25-33).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Krishnamurthy's teaching of a proxy cache determines whether received a request for a data resource that resides in the proxy cache is valid or invalid to Chamberlain's system in order to a void unnecessary time delay in processing the subscriber's request and further to reduce network traffic.

As to claim 20, Chamberlain teaches the claimed limitations:

"a first cache configured to cache data received from a data server, wherein said first cache is separate from said data server" as downloading web pages into volatile cache which enables a user to quickly review webpages that were already downloaded. These web pages are stored in a web server. A stored web page in cache is represented as cache data (col. 1, lines 53-65),

"wherein the data server is coupled to the cache system via a network link" as (col. 1, lines 30-65; col. 2, lines 1-5);

"a data service module configured to serve a first set of cached data in response to a first data view request from a client" as downloading web pages into volatile cache, which enables a user to quickly review webpages that were already downloaded. These web pages are stored in a web server (col. 1, lines 53-65). This

information shows that the system should include a data service module to allow a user

access web pages on volatile cache. A stored web page in cache is represented as

cache data;

"an invalidation module configured to automatically invalidate said first set

of cached data when a first data change request is received from a client" as

validity analyzer is used to automatically invalidate pages based upon whether the

candidate response is stale after receiving requested URL of the user. With a Domino

server, within the URL that is received from the requesting user is a Domino/Notes-

specific command e.g., ?Edit Document which is examined at the cache control unit

311. This information shows that the cache control unit can receives an edit request to

edit a document. The cache server is represented as the cache system. A change

request is represented as a URL request. A URL is represented as a data item (fig. 4,

col. 7, lines 23-48).

Chamberlain does not explicitly teach the claimed limitation "wherein said automatic

invalidation is performed at the cache system before the data server is notified of said

first data change request". Krishnamurthy teaches that when the subscriber sends a

request for accessing or downloading a particular page in the network, say a page

residing at source s.sub.2, the LSP first checks in the proxy cache to determine

whether the requested resource is available from the cache without having to transfer

the request through the network to the server which is typically more remote. If the

resource is available at the cache, the local service provider can transmit the resource

back to the requester without the need of forwarding a request through the network to

the server s.sub.2. The above information shows that the cache system is physically

separate from the server s.sub.2 and automatically validating the requested resource

without having to transfer the request through the network (col. 1, lines 44-55).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Krishnamurthy's teaching of when the subscriber

sends a request for accessing or downloading a particular page in the network, say a

page residing at source s.sub.2, the LSP first checks in the proxy cache to determine

whether the requested resource is available from the cache without having to transfer

the request through the network to the server which is typically more remote. If the

resource is available at the cache, the local service provider can transmit the resource

back to the requester without the need of forwarding a request through the network to

the server s.sub.2. to Chamberlain's system in order to avoid unnecessary time delay

in processing the subscriber's request and further to prevent network traffic.

As to claim 21, Chamberlain teaches the claimed limitation "said invalidation

module" as validity analyzer (fig. 4).

As to claim 22, Chamberlain teaches the claimed limitation "a set of rules for

determining when said first set of cached data is to be automatically invalidated in

response to a data change request" as if the cache control unit determines that there is

an exact match between the parsed URL of the user request and the URLs

corresponding to one of the cached responses in the cache 304, the candidate cached

response along with its associated cache strategy indicators is passed to the cached

response analyzer 306. The response analyzer 306 performs two series of tests. The

first series of tests are response-specific and the second series of tests are request-

specific. The response-specific tests are performed by the validity analyzer portion 315

while the request-specific tests are performed by the applicability analyzer portion 317.

These tests will be discussed in greater detail below. If the candidate cached response

and its associated attributes pass the two tests, the candidate cached response is

simply served up to the user via the HTTP server 206. This information shows that the

system has included rules to test URLs for validating URLs. A URL corresponding to

one of the cached responses is represented as a pattern (col. 8, lines 25-40).

As to claim 23, Chamberlain discloses the claimed limitation "a user interface

configured to facilitate the creation of one of said rules" as the $CacheValid field lets the

designer to tell the cache that this response should be considered valid for a certain

number of seconds regardless of what the caching strategy generator determines the

cache strategy to be. Consider a simple home page that is being continually edited.

The caching strategy generator would normally give this page the "Document" strategy,

i.e., the Document strategy flag would be set, so that the cache entry would become

invalid each time the page is edited. For example, if the homepage designer

considered it acceptable that the home page not be continually updated for

every request as a tradeoff for performance, the designer would then

communicate this by creating a $CacheValid field on the response with a value

of N. If the designer considered it acceptable for the page to remain fresh

for requests for, at a minimum, 3 minutes after the response was cached, the

designer would set N=180. This would cause the results of the page to be

considered valid for at least 180 seconds. After that time, the normal validity checks

will take place (col. 13, lines 25-45). This information shows that the system has

included an interface to allow a designer to create rule such as $cacheValid.

As to claim 24, Chamberlain discloses the claimed limitation "wherein said first

data change request comprises a predetermined sequence of communications" as to

access a page on a cache server, the user has to log on the system and then enter a

URL for accessing. This information shows that the request includes a sequence of

communications (col. 11, lines 40-45; col. 7, lines 23-25)

4. Claims 5, 12 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Chamberlain in view of Krishnamurthy and further in view of Bourne et al (or

hereinafter "Bourne") (USP 6584548).

As to claim 5, Chamberlain and Krishnamurth disclose the claimed limitation

subject matter in claim 1, except the claimed limitation "multiple caches and said

receiving occurs at a first of the multiple caches, the method further comprising: sending

a notification of said automatic invalidation from the first cache of the multiple caches to

a second cache of the multiple caches". However, Bourne teaches upon receiving

notification that a fragment 's time limit has expired, cache coordinator will send a call to

the caches to indicate that the fragment is no longer valid. In this example, cache

coordinate sends an invalidate message to fragment cache. Since the cache

coordinator sends a invalidate message without involving any user actions, thus, this

sent invalidate message is an automatic invalidate message from the cache coordinate

to fragment cache This information shows that the caches receives an automatic

invalidate message from cache coordinator (col. 18, lines 4-11).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Bourne's teaching of upon receiving notification that a

fragment 's time limit has expired, cache coordinator will send a call to the caches to

indicate that the fragment is no longer valid to Chamberlain's system and

Krishnamurthy's system in order to maintain data on caches fast without involving any

interaction from other server.

As to claim 12, Chamberlain discloses the claimed limitation subject matter in

claim 6, except the claimed limitation "multiple caches and: wherein said caching

comprises caching said first set of data at a first cache of the multiple caches; and

wherein said automatically invalidating is performed at a second cache other multiple

caches; the method further comprising notifying the first cache, by the second cache, of

said automatic invalidation". Bourne teaches upon receiving notification that a fragment

's time limit has expired, cache coordinator will send a call to the caches to indicate that

the fragment is no longer valid. In this example, cache coordinate sends an invalidate message to fragment cache. Since the cache coordinator send a invalidate message without involving any user actions, thus, this sent invalidate message is an automatic invalidate message from the cache coordinator to fragment cache This information shows that the caches receives an automatic invalidate message from cache coordinator (col. 18, lines 4-11).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Bourne's teaching of upon receiving notification that a fragment 's time limit has expired, cache coordinator will send a call to the caches to indicate that the fragment is no longer valid to Chamberlain's system and Krishnamurthy's system in order to search/retrieve previous data on caches quickly.

As to claim 25, Chamberlain discloses the claimed limitation subject matter in claim 20, except the claimed limitation "a second cache; wherein said second cache is notified by said first cache of said automatic invalidation". Bourne teaches upon receiving notification that a fragment 's time limit has expired, cache coordinator will send a call to the caches to indicate that the fragment is no longer valid. In this example, cache coordinate sends an invalidate message to fragment cache. Since the cache coordinator send a invalidate message without involving any user actions, thus, this sent invalidate message is an automatic invalidate message from the cache coordinator to fragment cache This information shows that the caches receives an automatic invalidate message from cache coordinator (col. 18, lines 4-11).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Bourne's teaching of upon receiving notification that a fragment 's time limit has expired, cache coordinator will send a call to the caches to indicate that the fragment is no longer valid to Chamberlain's system and Krishnamurthy's system in order to maintain data on caches faster.

5.   Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlain in view of Krishnamurthy and further in view of Rackson et al (or hereinafter "Rackson") (USP 6415270).

As to claim 15, Chamberlain discloses the claimed limitation subject matter in claim 13, except the claimed limitation" wherein said first set of data comprises a first user's bid on an item being auctioned in an electronic auction, and wherein said change request comprises a second user's bid on said item". Rackson teaches user's bids on items (figs. 7-8).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Rachson's teaching of user's bids on items to Chamberlain's system in order to allow a user to buy any item with good deal on Internet system and to achieve an optimal result.

6.   Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlain in view of Krishnamurthy and further in view of Challenger et al (or hereinafter "Challenger") (USP 6026413).

As to claim 8, Chamberlain discloses the claimed limitation subject matter in claim 6, except the claimed limitation "wherein said second set of data is a later Version of said first set of data". However, Challenger teaches the cache manager then invalidates all cached objects, which depend on the underlying data being updated. Version number allows the object manager to uniquely identify different versions of the same object. This information shows that the system has stored a first version of the object and second version of the same object. The second version of the object is represented as the later version of first version set of data (col. 16, lines 57-58; col. 9, lines 5-6).

It would have been obvious to a person of an ordinary skill in the art to apply Challenger's teaching of invalidating all cached objects. Each object has different versions to Chamberlain's system in order to determine how different an obsolete version of an object is from the current version.

As to claim 9, Chamberlain discloses the claimed limitation subject matter in claim 6, except the claimed limitation "identifying a relationship between said second set of data and said first set of data". However, Challenger teaches version number allows the object manager to uniquely identify different versions of the same object. This information shows that there is a relationship between first version and second version of the same object (col. 16, lines 57-58).

It would have been obvious to a person of an ordinary skill in the art to apply Challenger's teaching of different versions of the same objects to Chamberlain's system

in order to determine how different an obsolete version of an object is from the current

version.

As to claim 10, Chamberlain teaches the claimed limitation "comparing a pattern

of said first request to a first rule for determining when to automatically invalidate a set

of data" as if the cache control unit determines that there is an exact match between

the parsed URL of the user request and the URLs corresponding to one of the cached

responses in the cache 304, the candidate cached response along with its associated

cache strategy indicators is passed to the cached response analyzer 306. The

response analyzer 306 performs two series of tests. The first series of tests are

response-specific and the second series of tests are request-specific. The response-

specific tests are performed by the validity analyzer portion 315 while the request-

specific tests are performed by the applicability analyzer portion 317. These tests will

be discussed in greater detail below. If the candidate cached response and its

associated attributes pass the two tests, the candidate cached response is simply

served up to the user via the HTTP server 206. This information shows that the system

has included rules to test URLs for validating URLs. A URL corresponding to one of

the cached responses is represented as a pattern (col. 8, lines 25-40).

As to claim 11, Chamberlain teaches the claimed limitation "a first pattern for

identifying a request in response to which a set of data may be validated, and further

comprises a second pattern, different from said first pattern, to identify said set of data

to be automatically invalidated" as Editdocument –command for editing a document is represented as a first pattern for identify request (col. 7, lines 30-50). Data, forms, subforms are represented as a second pattern to identify said set of data (col. 7, lines 55-65).

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlain in view of Krishnamurthy and further in view of Ekanadham et al (or hereinafter "Ekanadham") (USP 5802582).

As to claim 14, Chamberlain and Krishnamurthy disclose the claimed limitation subject matter in claim 13, except the claimed limitation " wherein said data server is notified of said change request only after said automatic invalidation of said cached first set of data". Ekanadham teaches that there is no automatic coherence as in prior cache systems, where a cache forcefully invalidates or updates other caches whenever shared data is written. In explicit coherence, a processor waits until all other processors have voluntarily released their locks on the shared data by issuing an explicit release command before a write can proceed. A chief consequence of this is that there is no need for forced invalidation, and no need to broadcast or maintain a directory for notifying caches of forced invalidations or updates. The above information shows that the cache system can invalidate data without involving any server. Thus a server can receives a request after the cache system invalidating data (col. 2, lines 28-36).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ekanadham's teaching of there is no automatic

coherence as in prior cache systems, where a cache forcefully invalidates or updates

other caches whenever shared data is written, no need for forced invalidation,

and no need to broadcast or maintain a directory for notifying caches of forced

invalidations or updates to Chamberlain's system and Krishnamurthy's system in order

to maintain or improve cache coherence in a shared memory multiprocessor system

and save time for validating data.

8.   Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Chamberlain in view of Krishnamurthy and further in view of Cheng et al (or hereinafter

"Cheng") (USP 6151643).

As to claim 16, Chamberlain teaches the claimed limitation "wherein said first set

of data comprises information concerning one or more products at a publicly accessible

network location" as a user can access files which can be in different formats such as

text, graphics, images, and video via Internet (col. 1, lines 40-50). Chamberlain does

not explicitly teach the claimed limitation "wherein said change request comprises a

change to said list of products". However, Cheng teaches the user requests update all

installed products (fig. 5, col. 11, lines 10-15)

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Change's teaching of updating all installed products

based on user's request to Chamberlain's system and Krishnamurthy's system in order

to provide new products to a user.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to
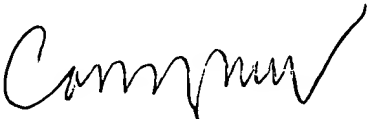
applicant's disclosure.

Otterness et al (US 6460122).

Contact Information

10.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Cam Y T Truong whose telephone number is (571) 272-

4042. The examiner can normally be reached on Monday to Firday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

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Cam-Y Truong
Patent Examiner
Art Unit 2162
12/27/2004